

ITCE311 Test1 October 2003

Q1 a Multiple choices:

- 1----- are the rules that govern a communication exchange.
 - a. Media
 - b. Criteria
 - c. Protocols
 - d. all of the above
- 2- The performance of a data communication depends on-----
 - a. the number of users
 - b. the transmission media
 - c. the hardware and the software
 - d. all of the above
- 3- When a protocol specifies that the address of the sender must occupy the first four bytes of a message, this is a ----- issue
 - a. syntax
 - b. semantics
 - c. timing
- 4----- is the division of one task among multiple computers
 - a. Distributed processing
 - b. Distributed messaging
 - c. Distributed telephony
 - d. Electronic messaging
- 5-which topology requires a central controller or hub
 - a. mesh
 - b. star
 - c. bus
 - d. ring
- 6-Communication between a computer and a keyboard involves ----- transmission
 - a. simplex
 - b. half duplex
 - c. full-duplex
 - d. automatic
- 7- In a ----- connection more than two devices can share a single link
 - a. point to point
 - b. multipoint
 - c. primary
 - d. secondary
- 8- Security and privacy are less of an issue for devices in a ----- topology
 - a. Mesh
 - b. tree

- c. bus
- d. star

- 9- The ----- layer decides the location of synchronization points
- a. transport
 - b. session
 - c. presentation
 - d. application
- 10- In the ----- layer the data unit is called frame
- a. physical
 - b. data link
 - c. network
 - d. transport
- 11- Encryption and decryption of data are responsibility of the ----- layer
- a. physical
 - b. data link
 - c. presentation
 - d. session
- 12- Mail service and directory service are available to network users through the ----- layer
- a. data link
 - b. session
 - c. transport
 - d. application
- 13- What is the main function of the transport layer?
- a. node to node delivery
 - b. end to end message delivery
 - c. synchronization
 - d. updating and maintenance of routing tables
- 14- Before information can be transmitted it must be transformed into -----
- a. periodic signals
 - b. electromagnetic signals
 - c. aperiodic signals
 - d. low-frequency sine waves
- 15- What is the bandwidth of a signal that ranges from 40 Khz to 4 Mhz
- a. 36 mhz
 - b. 360 mhz
 - c. 3.96 mhz
 - d. 396 mhz
- 16- At the lower end of the electromagnetic spectrum we have
- a. power and voice
 - b. ultraviolet light
 - c. infrared light

17- What is the major factor that makes coaxial cable less susceptible to noise than twisted pair cable

- a. inner conductor
- b. diameter of cable
- c. outer conductor
- d. insulation material

18- -----is the propagation method subject to the most distortion

- a. multimode step-index
- b. multimode graded-index
- c. single mode

19- Optical fibers, unlike wire media are highly resistant to

- a. high frequency transmission
- b. low frequency transmission
- c. electromagnetic interference
- d. refraction

20- The type of propagation used in radio communication is highly dependent on the ----- of the signal

- a. data rate
- b. frequency
- c. band rate
- d. power

Q1b Define the following

Distributed processing:

Mesh topology:

Half-duplex mode:

Peer-to-peer process:

Multimode step-index fiber:

Geosynchronous satellites:



Q2a. Show graphically The ISO OSI Model. Name and summarize the function of each layer.



Q2b. Suppose you add two new devices to an existing seven- device network. If you have a fully connected mesh topology, how many new cable lines are needed? If, however, the devices are arranged in a ring, how many new cable lines are needed.

Q3a. What is the bit rate of the following signals?

- (a) A signal in which a bit lasts 0.001 second.
- (b) A signal in which 1000 bits last 0.00025 second



Q3b. A Signal travels from point A to point C through point B. At point B the signal is amplified by 2db. The signal power is 100watts. At point C the power is 90 watts. What is the attenuation in db.

